Prepared for
Department of the Army
US Army Garrison Fort Belvoir

in accordance with
Army Regulation 200-2

pursuant to
National Environmental
Policy Act Section 102(2)(C)

Environmental Assessment

Construction of Force Protection Infrastructure Improvements Fort Belvoir, Virginia

July 2002

Abstract

This Environmental Assessment (EA) identifies and evaluates the potential effects of constructing and operating three infrastructure improvement projects. The purpose and need for the projects is to improve force protection and to provide additional support to mission critical functions. The three projects include a new fuel storage and delivery system, a new water storage and delivery system, and enhanced electrical services. Along with the Proposed Action, this EA considers a No Action alternative. No significant adverse impacts are anticipated as the result of the Proposed Action.

Please contact the following person with comments and questions:

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ENVIRONMENTAL ASSESSMENT

US ARMY GARRISON FORT BELVOIR

CONSTRUCTION OF FORCE PROTECTION INFRASTRUCTURE IMPROVEMENTS FORT BELVOIR, VIRGINIA

July 2002

Reviewed by:

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Finding of No Significant Impact

U.S. Army Garrison Fort Belvoir
Directorate of Installation Support
Construction of Force Protection Infrastructure Improvements
Fort Belvoir, Virginia

1.0 Description of Proposed Action: US Army Garrison Fort Belvoir is proposing to construct three infrastructure improvement projects that would include:

- Fuel oil and gasoline delivery, storage and distribution facilities comprising: an underground fuel oil transfer tank, an underground gasoline storage tank, a fuel oil storage tank farm with a capacity of 300,000 gal [1,135,530 l]) located separately from the delivery facilities, and an underground fuel oil pipeline.
- Water storage/distribution facilities that include an aboveground water storage tank with a capacity of 1.5 million gallons (5.68 million liters), underground piping, and water pump house.
- Underground electrical duct bank.

2.0 Alternatives: The No Action Alternative was evaluated.

3.0 Environmental Consequences: The Environmental Assessment (EA) identified potential impacts of the Proposed Action and mitigation measures to reduce effects on human health and the environment as summarized below:

- **Land Use:** The Proposed Action would not significantly alter land use patterns. The Proposed Action would be in keeping with the Installation's Master Plan.

- **Socioeconomics:** The Proposed Action would have negligible impact on the surrounding community, community facilities, housing, or taxes and other revenues. No more than five permanent staff would result from implementation of the Proposed Action.

- **Transportation & Traffic:** The Proposed Action would have minimal impact on traffic conditions on nearby roads. Fuel deliveries would not increase in the long run and employee trips would increase by only a few trips a day.

- **Air Quality and Noise:** The Proposed Action would have a negligible impact on air quality in the region and the locality of Fort Belvoir. Construction activities would generate some dust that could be partially mitigated by spraying water and expeditious re-vegetation of exposed soils. Operation of the Proposed Action facilities would not significantly affect long-term noise levels near the new facilities or on nearby roads.

- **Natural Resources**. The Proposed Action would result in about 2.5 acres (1.0 hectares) of land being disturbed at the Project Sites, of which 2 acres (0.8

hectares) are forested, plus approximately 1 ac (0.4 ha) of land being disturbed for underground water and fuel oil pipelines and electrical duct bank. Potable water would continue to be supplied by the Fairfax County Water Authority system and would be the source for the filling of the water storage tank. New impermeable surfaces would cover an estimated 1.12 ac (0.45 ha). No 100-year floodplain occurs in the Project Study Area or near the Project Sites. Surveys were done for rare, threatened or endangered species, and none were found. A perennial stream with associated resource protection area would be crossed by a fuel pipeline in a trench on the shoulder of a road. Federal and Virginia regulations regarding waters of the US and erosion and sediment control would be followed during construction.

- **Hazardous Substances:** The new facilities would be designed according to federal and state standards to prevent and contain fuel spills. The operation of the additional fuel storage and delivery facilities would be integrated into the installation's Master Spill Plan.

4.0 Conclusion: On reviewing the EA and other project information, the Commander of U.S. Army Garrison Fort Belvoir has concluded that the effects of the Proposed Action are not significant and will not adversely affect the quality of the environment. Fort Belvoir will ensure that the necessary mitigation measures are implemented. An Environmental Impact Statement will not be prepared.

Notice of Availability: The Environmental Assessment is available for public review at the Directorate of Installation Support, Fort Belvoir, Virginia and at John Marshall, Lorton, and Sherwood Hall branches of the Fairfax County Public Libraries. A copy of this notice and the Environmental Assessment can be viewed on the World Wide Web at *www.belvoir.army.mil*.

Interested parties are invited to submit written comments for consideration on or before 30 days after publication of this notice to **Commander, U.S. Army Garrison Fort Belvoir, 9430 Jackson Loop, Suite 107, ATTN: ANFB-ELE, Fort Belvoir, VA 22060-5130.** E-mail comments will be accepted at *environmental@belvoir.army.mil.* The proposed action will not be implemented before this date. For more information, contact Mr. Patrick M. McLaughlin at (703) 806-4007.

EXECUTIVE SUMMARY

S.1 Proposed Action

US Army Garrison Fort Belvoir is proposing to construct three infrastructure improvement projects, together called the Proposed Action, which would include:

- Fuel oil and gasoline delivery, storage and distribution facilities comprising: an underground fuel oil transfer tank, an underground gasoline storage tank, a fuel oil storage tank farm (located separately from the delivery facilities) with a capacity of 300,000 gal [1,135,530 l]) , and an underground fuel oil pipeline.

- Water storage/distribution facilities that include an aboveground water storage tank with a capacity of 1.5 million gallons (5.68 million liters), underground piping, and water pump house.

- Underground electrical duct bank.

This Environmental Assessment (EA) evaluates the Proposed Action and the No Action Alternative. US Army Garrison Fort Belvoir has prepared this EA in accordance with the National Environmental Policy Act (NEPA) of 1969 as implemented through the President's Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and Army Regulation (AR) 200-2, *Environmental Effects of Army Actions* at 32 CFR Part 651.

S.2 Purpose and Need for the Proposed Action

The purpose of the proposed infrastructure improvements is to improve force protection for facilities within a fenced, restricted portion of Ft. Belvoir by providing infrastructure support to mission-critical operations. The fuel oil and gasoline delivery, storage and distribution facilities would reduce onsite truck traffic by limiting both the frequency of fuel oil/gasoline deliveries and the extent of delivery vehicle access.

S.3 Alternatives to the Proposed Action

In addition to the Proposed Action, this EA evaluates a No Action Alternative. Under this alternative, there would no construction or operation of the three infrastructure improvement projects that comprise the Proposed Action. The No Action Alternative is considered in this EA

because it provides a measure of the conditions against to evaluate the Proposed Action. However, the No Action is not considered a viable alternative because the project proponent has deemed the infrastructure improvements critical to the success of its mission and operations.

S.4 Environmental Consequences

The Proposed Action would have no significant adverse impacts on the environment. The construction and operation of the infrastructure improvements would have minimal impact on local or regional land use, master plans, socioeconomics, community facilities, traffic, air quality, noise levels, or cultural resources.

The Proposed Action would have a positive impact on utilities at Fort Belvoir because it would provide the installation with increased fuel storage, water storage, and an enhanced electrical distribution service (via an electrical duct bank).

The Proposed Action would result in a total of approximately 2.5 ac (1.0 ha) of land being disturbed at the Project Sites plus approximately 1 ac (0.4 ha) for trenching for the underground water and fuel oil pipelines and the electrical duct bank (approximately half of this total is for the electrical duct bank). Because the ground disturbed would total approximately 3.5 ac (1.4 ha), which is less than the 5-ac (2-ha) threshold for land disturbance, a VPDES permit would not be required for the Proposed Action.

With respect to water resources, the Proposed Action would have little, if any, impact on groundwater resources. No withdrawal of groundwater would be necessary for the Proposed Action. Potable water would continue to be supplied by the Fairfax County Water Authority system and would be the source for the filling of the water storage tank. Impermeable surfaces would be constructed on an estimated 1.12 ac (0.45 ha) on the three Project Sites. The Proposed Action would increase the total area of impermeable surfaces within subwatershed 33 by only 1.9 percent, and within the Dogue Creek watershed by only 0.4 percent. No 100-year floodplain occurs in the Project Study Area or near the Project Sites. Therefore, the Proposed Action would have no effect on floodplains.

Contamination of surface and ground waters could result from leaks or spills that potentially could occur during operation of the gasoline and fuel oil delivery, storage and distribution systems. To prevent, detect and contain fuel leaks and spills from leaving the proposed fuel facilities, the fuel oil and gasoline delivery, storage and distribution facilities would include the following safeguards:

- Concrete fuel delivery pad, enclosed within a berm, and equipped with oil-water separators and other controls to prevent spills. The off-loading area would have

secondary containment features to hold releases from the largest fuel delivery vehicle to serve the site plus rainfall.

- Double-walled USTs equipped with inventory monitoring and leak detection systems.
- Double-walled fuel oil pipes equipped with inventory monitoring and leak detection systems.
- Fuel oil pipes buried 18 in (46 cm) below ground level, under a 2-in (5-cm) concrete cap, and marked with detectable utility tape.

In addition, Fort Belvoir maintains a Master Spill Plan (revised June 2001). The location and all features of the fuel oil tank farm and fuel delivery site would be integrated into the Master Spill Plan.

The Proposed Action involves the removal of about 2 ac (0.8 ha) of forest – a mixture of common beech- mixed oak, tulip poplar-mixed hardwood, and urban forests – and wildlife habitat on the three Project Sites. The utility lines would have little to no effect on vegetation because they would be built in established utility and/or transportation corridors, which already are clear of trees. The impact on the integrity of forestland and wildlife habitat would be relatively minimal because all three Project Sites adjoin developed areas. To compensate for the loss of trees, in accordance with the Tree Removal and Protection Policy of Fort Belvoir's DIS, for each tree 4 in (10.2 cm) in diameter or larger removed in the course of construction activities, two new trees would be planted.

No occurrence of any protected species has been recorded on or adjacent to any of the Project Sites. Surveys of the study were made for the presence of one state-listed threatened species – the wood turtle (*Clemmys insculpta*) – that may occur at Fort Belvoir. None were found. A survey was also conducted for small whorled pogonia (*Isotria medeoloides*) (federally- and state-listed endangered), but none were found, nor were any other rare plants found.

The proposed fuel pipeline – to be built into the shoulder of Williams Woods Road in a three-foot-wide trench – would traverse a designated Resource Protection Area (RPA) for a distance of approximately 385 feet (ft) (148 meters [m]) and cross an unnamed tributary to Dogue Creek. RPAs are environmentally sensitive areas. Using conventional excavation methods for the pipeline crossing, there would be temporary increased sedimentation and erosion at the stream crossing. A coffer dam or comparable method would be employed to minimize potential sediment discharge to the stream. For the potential stream crossings, Fort Belvoir would comply fully with the requirements of US Army Corps of Engineers (USACE) Nationwide Permit 12 which regulates "activities required for the construction, maintenance, and repair of utility lines and associated facilities in waters of the US." as well as Commonwealth of Virginia regulations.